

Syo KUROKAWA*: **Anaptychiae (lichens) and their allies of Japan (3)****

With one plate

黒川 道*: 日本産ゲジゲジゴケ属地衣 (3)**

7. **Anaptychia heterochroa** Vain. in Bot. Mag. Tokyo **35**: 60 (1921); Zahlbruckner in Fedde Repert. **33**: 68 (1933) et Cat. Lich. Univ. **7**: 727 (1931) et **10**: 657 (1940); Sato in Journ. Jap. Bot. **12**: 428 (1936).

Pseudophyscia hypoteuca var. *colorata* Zahlbr. in Sitzungsber. K. Akad. Wiss. Wien math.-naturw. Classe **111**: 413 (1902), e typo—*Anaptychia hypoleuca* var. *colorata* Zahlbr. in Bot. Mag. Tokyo **41**: 363 (1927)—*A. soredifera* var. *colorata* Magn., Cat. Haw. Lich. 391 (1955)—*A. dendritica* var. *colorata* Kurokawa in Journ. Jap. Bot. **30**: 255 (1955).

Thallus cinerascens vel albido-glaucescens, usque 10~15 cm latus, substrato laxe adnatus, laciniatus; lacinia elongatae et sublineares, margine integrae, crebre dichotome aut rarissime subdigitatim divisae, superne planae vel leviter convexae, laevigatae, 0.7~2 mm latae et ca. 200~300 μ crassae, soraliis subterminalibus demum rariore submarginalibus praeditae, sorediis farinosis; subtus ecorticatae, stuppeae, ochraceae vel fulvescentes, sed raro hic illic albidae (et demum rarissime caesio-fuscae); in marginibus rhizinis nigris, simplicibus et demum squarroso-ramosis, 1~2 mm longis ornatae.

In sectionibus transversis cortex superior irregulariter incrassatus, internus fere dentato-flexuosus, 30~200 μ crassus, parte exteriore obscure cinerea 15~25 μ crassus; stratum gonidiale 30~110 μ crassum, interdum fere usque ad superficiem attingens, gonidiis 8~11 μ in diam.; stratum medullare 50~100 μ crassum, hyphis sat dense contextis formatum.

Apothecia rara, 1~4 mm (raro 5 mm) lata, superficialia, sessilia vel substipitata, margine primum subintegris, demum mox sorediosis. Hymenium hyalinum, 150~250 μ altum, J+coerulescens; epithecium fuscum vel fusco-brunnescens; paraphyses

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apice parum incrassatae, nec ramosae nec constrictae; excipulum proprium una cum hypothecio ca. $35\sim50\ \mu$ altum, hyalinum, J+ leviter coerulescens; cortex receptaculi inaequaliter incrassatus, J-; asci subclavati, magnitudine $120\times35\ \mu$; spora fusco-brunnescentes, ellipsoideae, apice rotundatae, medio levissime constrictae, 1-septatae, 2-loculares, loculis ovatis rhomboidalibusve, demum mox vesiculis parvis terminatae, magnitudine $29\sim35\times15\sim19\ \mu$.

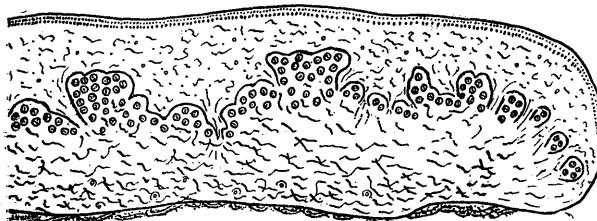


Fig. 10. Transverse section of the thallus of *A. heterochroa* ($\times 100$). substance.

Hab.: on rocks and on bark of trees.

Distr.: Japan (Honsyu, Sikoku, Kyusyu), Corea, Formosa, Hawaii, New Zealand, North America, Central America, South America and Africa.

Jap. name: kiura-gezigezigoke.

Historical specimens examined: JAPAN. Honsyu. Prou. Kozuke: A. Yasuda 229, Sept. 1918—holotype (TUR: Herb. Vain., no. 7728) and syntype (FH). Prov. Settu: Mt. Rokko, Y. Asahina 163, Mar. 27, 1924 (Asah.). FORMOSA. Prov. Taityu: Keito, M. Sato 43 (TI). Prov. Tainan: Mt. Arisan, M. Sato 4 (TI); Toroyen, M. Sato 44 (TI). Prov. Takawo: Mt. Daibu, M. Sato 5 (TI); Raisha, Y. Asahina 107 (Asah.). HAWAII. Oahu: Kaliwaa Valley, J.F. Rock 85—isotype of *Pseudophyscia hypoleuca* var. *colorata* (FH). NEW ZEALAND. Knight (s.n. *A. speciosa* var. *hypoleuca*) (UPS). MEXICO. Palenque, inter Colipa et Miscentla, F. Liebman 175—a pr. min. p., 1841 (UPS). PERU. Dept. and provincia Huanuco, Distrito Churubamba, Hacienda Exito, on woody stems of coca shrubs, alt. 1165 m, Ynes Mexia 8245—a pr. p., Oct. 1, 1936 (FH). BRASIL. Minas Geraes, Caldas, ad saxa, Hj. Mosén, Aug. 25, 1873 (UPS); Rio Grande do Sul, Quinta pr. oppid. Rio Grande, G.A. Malme 734, Dec. 4, 1892 (S); Rio Grande do Sul, Conoas pr. Porto Alegre, G.A. Malme 535, Oct. 3, 1892 (S); Vainio, Lich. Bras. Ex., no. 540 pr. p. (TUR: Herb. Vain., no. 5966). MAURITIUS: Robillard, 1900 (US).

The present species is very similar to *A. sorediifera* (Müll. Arg.) DR. et

Reaction: thallus
K+ yellow; med. K+ yellow, PD± pale yellow; undersurface K+ purple.

Chem. ingr.: atranorine, zeorin and indetermined yellow

Lynge, and seems to be sometimes confused with the latter. As a rule the undersurface of *A. heterochroa* is stippeous and entirely yellow or ochraceous, containing indetermined yellow pigment, which is K+purple. On the contrary that of *A. sorediifera* is usually smooth and caesious, but the apical part of it is white and often tinged with yellow. The yellow pigment of the latter is K+yellow. Norstictic and salazinic acids were not demonstrated in any specimen of the former examined by me, while they were in most specimens belonging to the latter.

On the other hand the upper cortex of *A. heterochroa* is very irregularly thickened in transverse section of laciniae, and often deeply penetrates to medullary layer as in *A. hypoleuca*, which has smaller spores. The upper cortex of *A. sorediifera*, however, is uniformly thickened, and the gonidial layer is continuous. Though Dr. Hale (in Bryologist 59: 117, 1956) suggested that *A. sorediifera* might be a synonym of *A. heterochroa*, the present species must be specifically separated from *A. sorediifera*. But the type of *A. heterochroa* and the isotype of *Pseudophyscia hypoleuca* var. *colorata* are identical as he (ibid.) mentioned.

A. heterochroa occurs on bark of trees or on non-calcareous rocks in Japan, but it has not been recorded from Hokkaido and Tohoku district (or northern Honshu) of Japan. Many specimens from North America collected by Dr. Hale are preserved in US. In South and Central America as other tropical and temperate zones the present species has been often reported under the name of *A. sorediifera* by several authors.

8. *Anaptychia fulvescens* (Vain.) Kurokawa stat. nov.

Anaptychia hypoleuca var. *fulvescens* Vain. in Philipp. Journ. Sci. Bot. 8:106 (1913)—*A. heterochroa* var. *fulvescens* (Vain.) Sato in Journ. Jap. Bot. 12:429 (1936), quoad basionym tantum.—‘*Anaptychia hypoleuca* (Mühl.) Vain.’ Etud. Lich. Bres. 1:133 (1890); Lynge in Videnskapsselsk. I. Mat. Naturv. Kl., 16:10 (1924).

var. *fulvescens*.

This typical variety is closely related to *A. heterochroa*, but differs in lacking soredia on the thallus and at the margin of apothecia. Externally it resembles *A. hypoleuca*, but the spores ($30\sim45\times13\sim18\mu$) are larger than those of the latter ($20\sim30\times10\sim15\mu$) and the undersurface of the thallus is usually yellow or ochraceous containing yellow pigment identical with that of *A. heterochroa*. The rhizinae of the present species is jet black and simple or squarrosely branched as those of *A. heterochroa*, while the rhizinae of *A. hypoleuca* are of same colour of the thallus or darkened at their apical parts and irregularly branched. Vainio, who stud-

ied Philippine and Brasilian Anaptychiae, classified the present species as *A. hypoleuca* (Mühl.) Vain. (*ibid.*), and many lichenologists have followed his interpretation. As I already mentioned, however, the distribution range of *A. hypoleuca* (Mühl.) Mass. is restricted within Japan, Saghalien and Eastern North America. On the other hand *A. fulvescens* is widely distributed in tropical and subtropical zones, but not in temperate zone.

Distr. : Philippine, Ceylon, Fiji, Central America and South America.

Specim. exam. : PHILIPPINE. Luzon, Subprov. Benguet. ca. 1500m, E. D. Merrill 7935, May, 1911—lectotype of *A. hypoleuca* var. *fulvescens* (TUR: Herb. Vain., no. 7961) and isolectotype (US); Merrill 7966—paratype (TUR: Herb. Vain., no. 7963). CEYLON. : G. H. K. Thwaites (det. Leighton no. 41? herb. note s.n. *Physcia speciosa*) (UPS). FIJI. Viti Levu, MBA (formerly Tholo North), Western and southern slopes of Mt. Tomanivi (Mt. Victoria), alt. 850-1150 m, A. C. Smith 5233, July 7-Sept. 18, 1947 (US), Viti Levu, Nandronga & Novosa (formerly Tholo North), Northern portion of Rairamatuku Plateau, between Nandran and Nauga, alt. 725-825 m, A. C. Smith 5454, Aug. 4-7, 1947 (US). COSTA RICA. Potreros near farmhouse at Hacienda Santamari and source of Rio Liberia, 680-780 m, G. W. Dodge and W. S. Thomas 6790, Jan. 1930 (US). CUBA. Wright, Lich. Cubae, Ser. II, no. 8-a (UPS) and Ser. II, no. 8-b pr. maj. p. (UPS). COLOMBIA. La Cabrera, Paudi, on rock, E. Perez, July, 1930 (US: Herb. Nac. Colomb. no. 624). BRASIL. Minas Geraes, prope Caldas, ad arbores campi, Hj. Mosén 2331 pr. p., Aug. 1873 (UPS); Minas Geraes, ad saxa aprica, Hj. Mosén 2330, Aug. 25, 1873 (UPS); Vainio, Lich. Bras. Exs., nos. 540 pr. p., 749, 791 and 1141 (TUR: Herb. Vain., nos. 7966, 7967, 7999 and 7974 respectively).

var. *rottbollii* (Vain.) Kurokawa comb. nov.

Anaptychia hypoleuca var. *rottbollii* Vain. in Philipp. Journ. Sci. Bot. **8**: 106 (1913).—‘*A. heterochroa* var. *fulvescens* Sato’ in Journ. Jap. Bot. **12**:429 (1936), excl. basionym.—*A. dendritica* var. *colorata* f. *hypoflavescens* Kurokawa in Journ. Jap. Bot. **30**:255 (1955) e typo.

The present variety is distinguished from the typical variety by colour of undersurface of the thallus. In typical variety it is entirely yellow or ochraceous, but in this variety it is white or caesious and the yellow pigment is deposited only at its apical part. On the one hand the variety bears closest resemblance to *A. hypoleuca* externally, but differs from the latter in having larger spores and in producing yellow pigment.

Distr.: Formosa, Yunnan, Philippine and South America.

Specim. exam.: FORMOSA. Mt. Arisan, Mingetsu, M. Sato, Taiwan no. 6 pr. maj. p.—holotype of *A. dendritica* var. *colorata* f. *hypoflavescens* (TI). CHINA: Yunnan, Eastern slopes of Likiang Snow Range, Prefectural District of Likiang, Yangtze watershed, J. F. Rock 11746, May-Oct. 1922 (US). PHILIPPINE. Luzon: Sub-prov. Benguet, Mt. Tonglon, E. D. Merrill 7984—holotype of *A. hypoleuca* var. *rottibollii* (TUR: Herb. Vain., no. 7960). BRASIL. Minas Geraes, São João d'el Ray, ad arbores campestres, G. A. Malme 307, Sept. 1, 1892 (S); Rio Grande do Sul, porte Alegre in dumetis prope oppidum, ramulicola, G. A. Malme 383, Sept. 17, 1892 (S); Vainio, Lich. Bras. Exs., no. 855 (TUR: Herb. Vain., no. 7969): Minas Geraes, Sitio, Vainio Lich. Bras. Exs., no. 969, 1885 (FH); Vainio, Lich. Bras., Exs. nos. 987, 997 and 1036 (TUR: Herb. Vain., nos. 7972, 7971 and 7970 respectively). ARGENTINA. Lorentz et Hieronymus, 1872-74 (UPS).

9. **Anaptychia hypocaesia** Yasuda ex Räsänen in Journ. Jap. Bot. **16**: 139 (1940).

Thallus cinerascens vel albido-glaucescens, usque 5~10 cm latus, laciniatus; laciniae crebre dichotome vel saepe subdigitatim divisae, superne planae vel leviter concavae, 0.7~3 mm latae, ca. 200 μ crassae, soraliis subterminalibus praeditae, sorediis farinosis vel subgranulosis; subtus ecorticatae, albidae sed in centro interdum caesio-fuscae et in apice tantum rarissime leviter fulvescens, in marginibus rhizinis nigris, simplicibus vel squarroso-ramosissimis 1~3 mm longis ornatae.

In sectionibus transversis cortex superior aequaliter incrassatus, internus haud dentato flexuosus, 30~80 μ crassus, ex hyphis parallelibus formatus, parte exteriore obscure cinerea, ca. 15 μ crassa; stratum gonidiale sub cortice superiore situm, continuum, ca. 15~30 μ crassum, gonidiis 6~9 μ in diam.; stratum medullare 100~130 μ crassum.

Apothecia rara, 1~4 mm lata, margine laciniis demum mox sorediosis, disco fusco-brunnescenti, leviter albo-pruinoso, receptaculo thallo concolore. Hymenium hyalinum, ca. 150 μ altum, J+coerulescens; epithecium brunnescens; excipulum proprium una cum hypothecio ca. 30 μ altum, J-; paraphyses filiformes, in apicibus parum incrassatae, simplices; asci oblongo-clavati, magnitudine 120~150 \times 29~33 μ , 8-spori; sporae brunnescentes, ellipsoideae, medio non aut levissime constrictae, 1-septatae, 2-loculares, loculis ovatis rhomboidalibusve, demum mox vesiculis parvis terminatis, magnitudine 35~46 \times 16~18 μ .

Chem. ingr.: atranorine, zeorin, salazinic acid and indetermined yellow sub-

stance.

Reaction : thallus K+yellow; med. K+yellow afterwards red, PD+deep yellow.

Hab.: on rocks, on bark of trees and on ground.

Distr.: Japan (Honsyu, Kyusyu), Philippine and India.

Specim. exam.: JAPAN. Honsyu. Prov. Sagami: Hakone, Y. Asahina, Oct. 15, 1822 (=Yasuda, no. 674)—isotype (TI and Asah.). Prov. Izu: Yagasaki, Y. Asahina, Aug. 16, 1922 (Asah.). Prov. Mikawa: Mt. Horaizi, S. Kurokawa 56011 and 56015-b, Jan. 6, 1956 (Kurok.). Kyusyu. Prov. Higo, Danto, F. Fujikawa, Aug. 7, 1933 (Asah.). PHILIPPINE. Luzon: Prov. Benguet, Mt. Pulog, E. D. Merrill 6430, May 1909 (TUR: Herb. Vain., no. 7984); Prov. Benguet, R. C. McGregor, June 1909 (TUR: Herb. Vain., no. 7985). INDIA. N. W. Himalayas, Alwora district, Askote, on ground in shade, 5500 ft., D. D. Awasthi 2661, May 29 1954 (Kurok.).

The original description of Räsänen is short and incomplete. He did not pay attention to the yellow pigment deposited on the undersurface of the thallus. The production of this pigment shows that the species is closely related to *A. heterochroa*, but it differs from the latter in producing salazinic acid. The type specimen is unfortunately sterile, and the description of apothecia is taken from the specimen collected by F. Fujikawa in Kyusyu.

○キク科植物の新外来種 (I) (久内清孝) Kiyotaka HISAUCHI: Some new peregrinating Compositae (1)

○**クワモドキ** *Ambrosia trifida* L. 近年この草が侵入して東京付近にまんえんしつつあることについては、かつて本誌 28巻 372頁に簡単にかいておいたが、その後各地にひろがりつつある模様で、九州では熊本市や小倉市から採集された報告があるので、もちろん其他の地域にも存在するものと思われるが、とにかくこれでこの草が九州に及んだことがわかつたが、これが早く満州で見つかり、そこで和名が与えられながら、戦前に内地に来ないで戦後にこれを見るようになつた事実は浸入の系統経路が別々であるように思われる。

○**Star of Texas** という花が輸入されていることは滝井の目録でもわかるがオブザスターという奇妙な名で知られている事実を私は知つている。これがなにかのきき誤りによるものか、またどの程度にひろがつてゐる名かわからないが一部にこんな名で呼ばれていることも事実である。あるいは米名の Star of Texas の記憶ちがいからできたものかも知れない。中菊位の大きさ(径 5.5-6 cm)に咲くきれいなキクで、花托は平坦、その外側の総苞片は卵状披針形で基部は扁平な短柄に移り縁部は膜質、舌状花は鮮黄色。狭隋円状で巾 5 mm 両端漸尖。米国では近年園芸化されたものらしい。学名は *Xanthisma texanum* DC. であるが栽培されているものは多少改良されたものかも知れない。

Star of Texas or *Xanthisma texanum* has been introduced to Japanese garden. *Ambrosia trifida* is becoming naturalized and spreading to Kyūshū district.

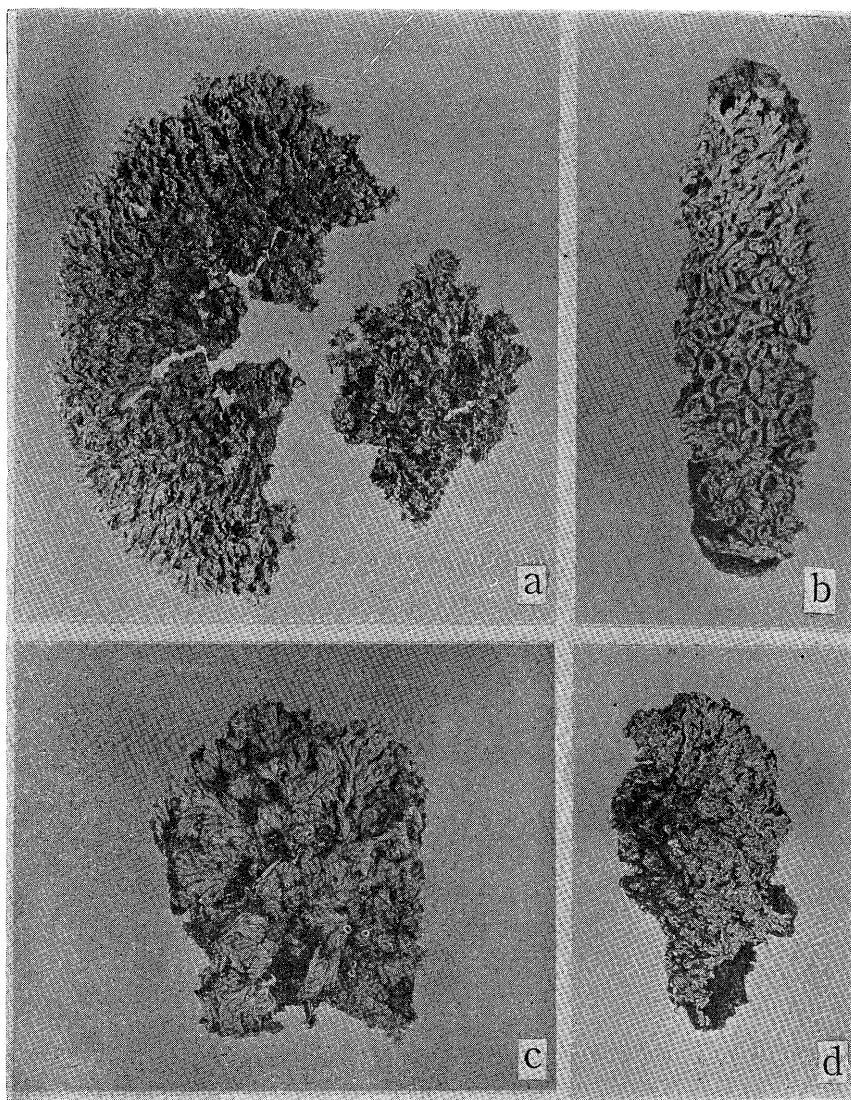


Plate 1. a: *A. heterochroa* from Japan ($\times 1/2$). b: Lectotype of *A. hypoleuca* var. *fulvescens* ($\times 3/4$). c: *A. fulvescens* var. *rottbollii* (Vainio, Lich. Bras. Exs., no. 969) ($\times 3/4$). d: Isotype of *A. hypocaezia* ($\times 1/2$).

S. KUROKAWA: Anaptychiae